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EXAMINER

LEFF, STEVEN N

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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09/22/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/761,008	Applicant(s) BAKER ET AL.	
	Examiner STEVEN LEFF	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-30 and 37-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-30 and 37-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/10/09, 5/18/09</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- Claims 1-11, 13-30 and 37-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - With respect to claims 1 and 27 the phrase “providing a food product in a flowable state in which a flowability of the food product under an influence of gravity or a density of the food product is maintained consistently” is rejected as it is unclear if the food product is actually in a state which requires a “flowing property”, such as melted chocolate, or if the food product is in a state which is capable of flowing, such as solid chocolate, and as such is capable of being “flowable” under the influence of processing step such as heating.
 - With respect to claims 1 and 27 the phrase “a flowability of the food product under an influence of gravity” is rejected as it is unclear if the food product is actually in a state which requires a “flowing property”, such as melted chocolate, or if the food product is in a state which is capable of flowing, such as solid chocolate, and as such is capable of being “flowable” under the influence of processing step such as heating.
 - With respect to claims 1 and 27 the phrase “a density of the food product is maintained consistently” is rejected as it is unclear if the entire food product has one density, i.e. completely melted chocolate or solid chocolate, if “a density” of the food product is with respect to a partially flowable state, i.e. a top layer melted layer. actually “flowing property”, such as melted chocolate, or if the food product is in a state which is capable of flowing, such as solid chocolate, and as such is capable of being “flowable” under the influence of processing step such as heating.
 - The phrase “at room temperature” in claims 17, 24, is rejected, as it is a relative term, which renders the claim indefinite. The term “at room temperature” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the

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invention. It is unclear as to what is encompassed by the phrase "at room temperature"; it is unclear as to what degree of difference is encompassed by this phrase, since a walk-in freezer would have one room temperature which is different from the room temperature of a heated environment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- Claims 1-3, 5, 15-16, 18-19, 21, 24, 26, 27-29, 37 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Waters (637600).

Waters teaches providing a food product in a flowable state (col. 1 lines 61- col. 2 lines 1-2) in which a flowability of the food product under an influence of gravity or a density of the food product is maintained consistently (col. 1 lines 61- col. 2 lines 1-2), applying a jettable media to the food product from an inkjet printer (col. 3 line 63) as a series of fluid drops in a predetermined image (col. 5 lines 8-11) while the food product is in the flowable state in which the flowability of the food product under an influence of gravity or a density of the food product is maintained consistently, and after applying the media, processing the food product to reduce the flowability of the food product under the influence of gravity (col. 4 lines 37-39, col. 1 lines 65). It is initially noted that due to the phrases "flowable" and "jettable" Waters is taken to positively teach such since Waters teaches melted chocolate, and a food product in a state which is capable of flowing, such as solid chocolate, and as such is capable of being "flowable" under the influence of processing step such as heating. It is further noted with respect to the limitation that the media on the food has a lateral image bleed of about 10% or less after 10 minutes or in 30 minutes that Waters is taken to positively teach this limitation since the image is permanently formed.

Waters continues by cooling the food product (col. 4 lines 37-38) enclosing the food product in a container prior to decreasing the gravity flowability (col. 4 lines 35-36),

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teaching that the media has a viscosity which is greater than a viscosity of the food product at a temperature of the food product during application (col. 4 lines 20-24) and that the media has a water soluble carrier (col. 1 lines 64-67). In addition, the media is insoluble in the food product (col. 4 lines 37-39, col. 1 lines 65), the media includes a visible dye (col. 1 lines 64-67), the food product comprises a dairy product (col. 4 line 35), and that the food product is at a temperature of about room temperature or greater while applying the media (col. 4 lines 34-39)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- Claims 4, 6-7, 11, 22-23, 25, 30, 38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waters (6376000) in view of Young (6536345).

Waters is taken as above however Waters is silent with respect to teaching an inkjet printer that the food product is ice cream (col. 6 line 6+), that the image is at a resolution of 50 dpi or more, cooling the food product to about 32F or less, that the food product has a viscosity of 50000cps or less or more specifically between 50 and 110 cps.

Young teaches providing an inkjet printer (col. 3 line 47+) capable of ejecting a series of drops for deposition on a substrate in a predetermined pattern (col. 3 line 66+) on a food product (col. 6 line 6+). Young continues by teaching that the food product is

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ice cream (col. 6 line 6+), in addition to teaching that the image (col. 6 line 31+) is at a resolution of 50 dpi or more (col. 6 line 1+). In addition, Young specifically teaches that the “virtually unskilled operative can produce decorated cakes to a high resolution,” (col. 5 line 65+).

Therefore since both Water and Young teach printing on minimally viscous food products, since Waters teaches applying a coating to a melted surface where Young not only teaches high-resolution printing on edible substrates such as chocolate, as is also taught by Waters, but Young further teaches printing directly on minimally viscous substances such as water and obtaining a high resolution image, and since Young specifically teaches printing on edible substrates, where the viscosity of the edible substrate can range from solid at room temperature or highly viscous, all the way to a minimally viscous substrate such as water, one of ordinary skill in the art at the time of the invention by the applicant would have been motivated to combine the teachings of Waters and Young in order to provide decorated edible substrates of different viscosities thus producing an edible substrate which would be more appealing to a larger group of people, in particular children, due to its increased aesthetic appeal.

Therefore although Water does not disclose specifically treating the ice cream by cooling and/or freezing to a specific temperature of 32F or less such as in after 10 minutes or so or serving the food within 45 minutes, Waters does teach that the food product is “cooled” and more specifically the final product in a “hardened” state (col. 4 lines 35-38). In addition, since Young teaches printing on ice cream, where if not kept cool ice cream will melt, it would have been obvious to one of ordinary skill in the art to teach that the food product is solidified by being cooled to 32F in order to maintain the resolution of the image since the melted material would cause the ink to “run” or “bleed” where Young specifically desires “high resolution” and thus in the instant case the desire to provide an unmelted decorated ice cream product flows logically thereby yielding predictable results to one of ordinary skill in the art at the time of the invention.

It would have further been obvious since one of ordinary skill in the art would not expect the instant claims to perform differently than the prior art method, thus the claimed method is not patentably distinct from the prior art method (See MPEP 2144.04 IV A). "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation," (see

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MPEP 2144.05 IIA), as the normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages” (see MPEP 2144.05 IIA). In the instant case Waters does teach that the food product is “cooled” and more specifically the final product in a “hardened” state (col. 4 lines 35-38), where Young teaches printing on ice cream, where if not kept cool ice cream will melt, and thus in the instant case the desire to provide an unmelted decorated ice cream product flows logically thereby yielding predictable results to one of ordinary skill in the art at the time of the invention with respect to teaching a specific cooling temperature of 32F or providing the food product in a specific amount of time.

In addition although Waters is silent with respect to the viscosity of the food product Waters does teach the desire to provide an image on a flowing surface and thus one of ordinary skill in the art would have been motivated to combine the teachings of Waters and Young and taught a specific viscosity which is to be printed on since Waters teaches applying a coating to a melted surface where Young not only teaches high-resolution printing on edible substrates such as chocolate, as is also taught by Waters, but Young further teaches printing directly on minimally viscous substances such as water and obtaining a high resolution image.

Therefore since Waters teaches applying an image to a flowing surface and since Young specifically teaches printing directly on edible substrates, where the viscosity of the edible substrate can range from solid at room temperature or highly viscous, all the way to a minimally viscous substrate such as water, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Young and Waters in order to provide decorated edible substrates which maintains the high resolution after printing the image as is desired by Young and Waters regardless of the surface to which the image is applied, since Young specifically teaches a method and apparatus for applying an image directly to a multitude of different substrates thus producing an edible substrate which would be more appealing to a larger group of people, in particular children, due to its increased aesthetic appeal with respect to a greater number of “sweet” foods as is taught by Young as opposed to solely chocolate or with respect to additional drinks such as coffee with a dairy product as opposed to water.

In addition, although Waters is silent with respect to the image being a resolution of 50 dpi or more, Waters does teach that "the sharpness of the image may also be controlled by enhancing the dots per inch (dpi) of the printer" (col. 5 lines 8-10), and thus since Young specifically teaches that the image (col. 6 line 31+) is at a resolution of 50 dpi or more (col. 6 line 1+), it would have been obvious to one of ordinary skill in the art to teach a specific desired resolution since a "higher dpi is able to print a sharper more detailed image" as is taught by Young (col. 5 lines 8-11) and thus producing a more appealing product due to its increased aesthetic appeal due to the desired clarity of the image as is taught by Young.

It would have further been obvious since one of ordinary skill in the art would not expect the instant claims to perform differently than the prior art method, thus the claimed method is not patentably distinct from the prior art method (See MPEP 2144.04 IV A). "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation," (see MPEP 2144.05 IIA), as the normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages" (see MPEP 2144.05 IIA) for optimizing and achieving the desired resolution, with respect to a specific food item at a specific desired consistency as is taught by Young.

With respect to claims 7, 38, and 40 although Young do not teach a specific drop volume, Young does teach the use of an ink jet printer for producing images on edible substrates where the resolution of the image should be greater than 50 dpi. Therefore, since the referenced printing means and resolution meet those of the instant claims, and due to the fact that resolution is a direct result of drop size, it would have been obvious to one of ordinary skill in the art to teach a specific drop volume of less than about 200 pL in order to obtain the desired 50 dpi resolution as is taught by Young.

- Claims 9-10, 13-14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waters (6376000) in view of Young (6536345) as applied above and further in view of Baker et al. (5938826).

Waters and Young are taken as above however neither teaches the use of a piezoelectric ink jet printer, that the media is heated to a temperature of 40C to 140C, that the media has a viscosity of about 8-20cps when ejected, or 70-100 cps at room

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temperature, and that the drops comprise predominantly a wax or a wax which is solid at room temperature.

Baker et al. teaches applying marks to “food products” (col. 5 line 22) using “hot melt inks which are solid at room temperature and liquid at temperatures above room temperature. Hot melt inks can be used, for example, in ink jet printing. During ink jet printing, the ink is heated so that it becomes liquid, and then is ejected through a print head onto a substrate. The ink then solidifies on the substrate.” (col. 1 lines 5+) The ink has a targeted melt viscosity of about 5 to 100 centipoise, (col. 3 line 10+) an auto-dispersing or a non-dispersible wax (clms. 1 and 10) and is ejected by activation of the PZT (piezoelectric transducer). (col. 5 line 9+)

Therefore since both Waters and Young teach printing on minimally viscous food products, and since Waters teaches applying a coating to a melted surface where Young not only teaches high-resolution printing on edible substrates such as chocolate, as is also taught by Waters, but Young further teaches printing directly on minimally viscous substances such as water and obtaining a high resolution image, and since Baker et al. specifically teaches hot melt inks can be used, for example, in ink jet printing, one of ordinary skill in the art at the time of the invention by the applicant would have been motivated to combine the teachings of Waters and Young and Baker et al. in order to provide decorated edible substrates of different viscosities thus producing an edible substrate which would be more appealing to a larger group of people, in particular children, due to its increased aesthetic appeal.

Thus although Waters and Young do not teach the use of a piezoelectric ink jet printer (col. 5 line 9+), both do teach high resolution printing, where Waters specifically further states “any printer which is able to receive refillable cartridges containing food grade coloring may be used” (col. 4 lines 4-6). Thus since the provision of providing an image on an edible substrate is a desirable feature, which would further enhance the substrate’s overall appearance, one of ordinary skill in the art would have been motivated to combine the teaching of Willcocks et al., Young, and Baker et al. in order to produce an edible substrate with an image using a piezoelectric ink jet printer, since MPEP 2144.07 states that the selection of a known process based on its suitability for its intended use supports a prima facie obviousness determination. The selection and use of a particular printer known in the art would not have involved an inventive step and

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therefore would have been obvious to one of ordinary skill in the art to utilize, based upon the ink composition, the desired image and substrate utilized thereby subsequently increasing the number of edible substrates that the image can be applied to.

With respect to the ejection media which has a viscosity of about 70-100 cps. at room temperature, or 8-20 cps. under ejection conditions and that the drops comprise predominantly a fat or a wax which is solid at room temperature, it would have been obvious to one of ordinary skill in the art to specific ink rheology of the media as is specifically taught by Baker et al., in order to increase the viscosity of the media to its operational range and thus subsequently increase the number of edible substrates that the image can be applied to.

- Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Waters (6376000) in view of Young (6536345) as applied above and further in view of Willcocks et al. (WO 01/94116).

Water and Young are silent with respect to teaching a drop on demand ink jet printer.

Willcocks et al. teach a method for printing high-resolution images on an edible substrate. The printing of the image on the edible substrate is accomplished with the use of a drop on demand ink-jet printer that uses food grade ink and is capable of obtaining resolution of greater than 200 dpi (pg. 6 line 21+).

Thus, although Waters and Young do not teach the use of a piezoelectric ink jet printer (col. 5 line 9+), both do teach high resolution printing, where Waters specifically further states "any printer which is able to receive refillable cartridges containing food grade coloring may be used" (col. 4 lines 4-6). Thus since the provision of providing an image on an edible substrate is a desirable feature, which would further enhance the substrate's overall appearance, one of ordinary skill in the art would have been motivated to combine the teaching of Willcocks et al., Young, and Baker et al. in order to produce an edible substrate with an image using a drop on demand ink jet printer, since MPEP 2144.07 states that the selection of a known process based on its suitability for its intended use supports a prima facie obviousness determination.

Thus the selection and use of a particular printer known in the art would not have involved an inventive step and therefore would have been obvious to one of ordinary skill

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in the art to utilize, based upon the ink composition, the desired image and substrate utilized thereby subsequently increasing the number of edible substrates that the image can be applied to.

Response to Arguments

With respect to the phrase “at room temperature” in claims 17, 24, is rejected, as it is a relative term, which renders the claim indefinite. It is unclear as to what degree of difference is encompassed by this phrase, since a walk-in freezer would have one room temperature which is different from the room temperature of a heated environment. With respect to applicant’s wikipedia definition of “room temperature” it is noted that the definition is specific to a range for humans, where the instant claims are not specific to common human room temperatures.

In response to applicant's arguments against the references individually it is noted that, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references, See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) where Waters and Young teach a flowing substance, and Waters teaches reducing the flowability of the product.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Leff whose telephone number is (571) 272-6527. The examiner can normally be reached on Mon-Fri 8:30 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Drew E Becker/

Primary Examiner, Art Unit 1794

/Steven Leff/

Examiner, Art Unit 1794